

**The Boeing Company**

# **ATG Discussion Session**

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# Overview

- Terrestrial ATG is well-suited for certain domestic services.
- Competition will enhance choice without degrading the seat experience.
- Boeing and AirCell have converged on a common approach to broadband ATG.
- Multiple ATG providers can provide “deck-to-deck” service.
- ATG rules should focus on the provision of broadband service to aircraft and accommodate Airfone’s existing narrowband operations for a limited period only.

# Terrestrial ATG Is Well-Suited for Certain Domestic Services

- Terrestrial ATG most appropriately viewed as complementary rather than competitive with satellite.
- Satellites are particularly well-suited to the provision of service on long-haul flights over water or other harsh terrain where terrestrial networks are impractical or impossible.
- Satellites are a more efficient means of delivering point-to-multipoint services like multi-channel video services.
- For broadband service within the continental United States, spectrum re-use capability and cost structure may make a terrestrial ATG system or hybrid terrestrial/satellite solution more appropriate as demand grows.

# Competition in Terrestrial ATG Enhances Choice Without Degrading the Seat Experience

- Facilitating competition among at least two broadband ATG providers requires only a few straightforward rules.
  - Competition results in lower prices and innovation.
  - Multiple providers enhance ATG spectrum capacity.
- The user experience does not vary with the number of ATG service providers.
- Transmission speed to the seat is a function of sector loading, throughput limitations of the communications standard, and self-interference.
- Monopoly and competitive ATG providers would face the same need to increase capacity as demand for service increases.

# AirCell's General Approach Would Likely Permit Multiple ATG Providers

- Cross-duplexing and cross-polarization, as well as related operational rules, appear to provide sufficient isolation to permit ATG spectrum sharing.
  - Assignment of transmission direction and polarization does not otherwise require a particular technology or transmission standard.
- Additional technical work is necessary to finalize a consensus proposal.
  - Final development of rules, including the number of available ATG licenses, requires further analysis and participation by all major ATG proponents.
  - The Commission should consider the impact of ATG operations on other users of the 800 MHz band.

# Multiple ATG Providers Can Provide “Deck-to-Deck” Service

- “Deck-to-deck” service can be provided by competing ATG providers with minimal operational requirements.
  - Service below 10,000 feet is an issue for aircraft at or near airports during take-off and landing.
  - AirCell’s airport solution is a reasonable means to allow multiple ATG providers to operate “deck-to-deck.”
- Continuous service below 10,000 feet beyond airport range would require an exponential addition of base stations and is therefore probably impractical for even a single provider.

# ATG Rules Should Focus on Broadband Service to Aircraft and Accommodate Airfone's Existing Operations

- Goal of ATG rules should be to facilitate the provision of competitive, broadband ATG service to aircraft.
- Airfone's incumbency rights are limited
  - Airfone's claimed "renewal expectancy" extends only to its existing narrowband service and should be carefully circumscribed.
  - Grandfathering of Airfone's existing narrowband operations is required only for a reasonable transition period.
  - Airfone's relocation reimbursement rights, if any, extend only to rechannelization of existing system.